

THE UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE

Madison 6

DEPARTMENT OF GENETICS

June 18, 1954

Dear Luca:

I am glad to have the detailed information on the ambiguity of your plans, ~~but~~ but Esther and I will be grievously disappointed if you should find it impossible to have your wife accompany you. In line of your remarks, I will suspend looking for housing, but do not think you will have serious trouble-- the Burris house was simply an unusual and unexpected opportunity, but even this may still possibly be on the market later.

One more detail, if you do arrive early, we should have an agreed intermediary in New York for the exchange of messages, etc. Unfortunately Ryan will be in California, and Zinder somewhat inconveniently located (about 25 mi. from New York) for this purpose at Cold Spring Harbor, though I am sure you will want to visit there and Rockefeller Institute (his regular place) as well. The best suggestion I can think of now is Bernie Davis, whom you must have met at the Congresses, and who will now be Professor of Pharmacology, New York University School of Medicine, 477 First Avenue, New York 16. But if you have a better acquaintance, let me know. At any rate, I will leave any message for you with Bernie. Another problem may be a place for you to stay in N.Y., especially if your wife is with you. I am sure you would find it more comfortable to borrow someone's apartment than to have to go to a hotel. As several people may be away from New York at that time, this should not be difficult. I will look into this, but please tell me if you have made any moves in this direction yourself.

As to our own plans, we will be leaving Madison in about a month, first to go to a symposium (i.e. summer lecture course) on microbial adaptation at Ann Arbor Michigan [July 20 - 27] and then to Woods Hole for the month of August + a few days. Our addresses will be, respectively, c/o Dept. Bacteriology, University of Michigan and c/o Marine Biological Laboratory (or just M.B.L.), Woods Hole, Mass. If you can arrange it, I think you would enjoy a day or two at Woods Hole very much, especially as there will be a number of microbial geneticists there at the time (Sonneborn, Moewus, Ephrussi's, Atwood, probably Luria, Sager and others). But we will probably drive back through New York in any event. Probably we would have to start back to Madison by not later than September 6 or 7, preferably a few days earlier. ~~As/for/the~~ It would be wise for you to obtain an International driver's licence (though this is not officially recognized as such in the U.S.) or similar credentials, just "in case".

As to the book, I frankly have not had the time or energy (especially in the recent hot weather) to give much more thought to it. The chief pitfall would be to make too ambitious a plan, but it is a little hard to see how we can really discuss it in enough detail by mail. I have a longstanding commitment with Sonneborn for a really comprehensive book on the whole field of microbial genetics, and this is one reason for the summer together at Woods Hole, but this will be such a different and long-term affair that I foresee no conflict. My initial

feeling was that our paper for the Rome congress came out very well, but that many things had to be condensed or omitted for lack of space. Something of 100 or 150 pages should be quite adequate, and I had in mind something modelled after the Methuen books, like Albert's Selective Toxicity. Although they would be the largest audience, and would have to be considered, a book for physicians on elementals would be insufferably dull to the writers and most readers. But we have here a model of biological, even evolutionary adaptation that could make for an exciting theme. Perhaps it would be a mistake to circumscribe the limits too soon, but we should be prepared to withhold any chapters that prove to be irrelevant. I would rather see, also, a completely thorough treatment of a few topics than a superficial skimming of a great many (like Catcheside's and Braun's texts).

Some comments on the outline you sent some time ago. I agree some summary and comment on specific drugs and their action will be essential (if only for our own understanding) but it would be foolish for us to appear as authorities in this field. There are, moreover, numerous works on this aspect (Work & Work; Albert; Woolley; Gustav Martin; and straight pharmacologies). Too much of this would lose the adaptation theme. I think we could well begin, after an introduction on mechanisms on drug action (of 10-15 pp.) with an account of species and individual idiosyncrasies in response to drugs, starting with man and down through microbes. This could then be used to introduce the genetic basis of such individuality on the one hand, and the role of mutation and selection on the other.

*including
enzym. adapt.

Next would be an account of adaptive mechanisms. First would be the responses of the individual— tolerance (even addiction) to drugs (e.g. morphine) and the "training" even of isolated nerve-muscle preps. to acetyl-choline, etc. Second would be the populational responses, in the laboratory, which are the foundations of our theory of drug resistance.

Then would be the ecological effect of drugs on a larger scale, primarily in re bacterial resistance, but there should be some comment on insecticides and herbicides. (Jim Crow and KP Link, both on campus, know as much as anyone about insecticides and rodenticides, resp., and should be able to help round us out on this).

Some comment will be needed on direct genetic effects, as you indicate in your Pt. 3. I am more dubious of 4 and 5, but so little is actually known that the saying should not take too much space. The part on which I shall have to do the most reading will be the ecological: there is at once too little and too much on the actual incidence and significance of resistance in clinical practice. We might perhaps close with a speculative foresight on the future prospects of the race of chemotherapy vs. adaptation.

I do not, in fact, plan to do much writing on this until we have had ample opportunity to discuss all the issues, and it might be fruitless to do much more than a fairly detailed outline and division of labor during your visit. But we shall see. I anticipate some problems already: is serotherapy (and adaptation to it!) within our scope?

You will be interested, and I hope as pleased as the rest of us, at the news that Sewall Wright, retiring from the University of Chicago, is joining our department in September in a special chair (L.J. Cole Professor of Genetics). The further news implied by the form of signature below is of lesser importa

Yours sincerely,

Joshua Lederberg
Professor of Genetics